

CLAIMS

- 5 1. A scooter assembly, comprising:
(a) a scooter comprising a running board supported by a front wheel and a rear wheel, said front wheel being connected to a handle bar by means of a steering shaft;
10 (b) a motor assembly detachably mounted to said scooter comprising a case and a motor, said case housing a battery and said motor being electrically connected to said battery and said motor having a shaft for engagement with one of said wheels; and
15 (c) a biasing mechanism operably associated with said motor and at least one of said scooter and said case to urge said motor shaft into engagement with one of said wheels.
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2. The scooter assembly of claim 1 wherein said motor assembly is detachably mounted to said steering shaft and said motor shaft engages said front wheel.
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3. The scooter assembly of claim 1 wherein said biasing mechanism is an elastic band.
- 30 4. The scooter assembly of claim 1 wherein said motor is housed within said case.
5. The scooter assembly of claim 1 wherein said motor is external of said case.

6. The scooter assembly of claim 1 wherein said scooter further comprises a pin and said case has a bearing portion for receiving said pin, so that said case is capable of pivoting with respect to said scooter.

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7. The scooter assembly of claim 1 further comprising a clamp for attaching said case to said scooter.

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8. The scooter assembly of claim 1 wherein said case is vertically adjustable with respect to said front wheel.

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9. The scooter assembly of claim 1 further comprising a control mechanism attached to said handle bar to control operation of said scooter.

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10. The scooter assembly of claim 1 further comprising a control circuit and a wheel sensor, said control circuit controlling operation of said motor in response to a signal received from said wheel sensor.

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11. The scooter assembly of claim 1 further comprising a control circuit and a current sensor capable of monitoring current flow to said motor, said control circuit controlling operation of said motor in response to a signal received from said current sensor.

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12. A method for operating a motorized scooter assembly, comprising:

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- (a) providing a scooter comprising a running board supported by a front wheel and a rear wheel, said front wheel being connected to a handle bar by means of a steering shaft;
- (b) providing a motor assembly comprising a case and a motor, said case housing a

battery and said motor being electrically connected to said battery and said motor having a shaft for engagement with one of said wheels;

- 5 (c) detachably mounting said motor assembly to said scooter; and
- (d) biasing said motor with respect to at least one of said scooter and said case to urge said motor shaft into engagement with
- 10 said one of said wheels.

13. The method of claim 12 wherein said step of detachably mounting said motor assembly to said scooter comprises connecting an elastic band to said

15 case, said elastic band passing around a portion of said scooter.

14. The method of claim 12 wherein said scooter further comprises a pin and said case further

20 comprises a bearing portion, and said step of detachably mounting said motor assembly to said scooter comprises receiving said pin within said bearing portion.

15. The method of claim 12 wherein said step

25 of detachably mounting said motor assembly to said case comprises attaching said case to a clamp mounted to said scooter.

16. The method of claim 12 further comprising

30 the step of detaching said motor assembly from said scooter when said battery is discharged.

17. The method of claim 12 further comprising

35 the step of controlling operation of said motor in response to turning of one of said wheels.

18. The method of claim 12 further comprising monitoring current flow to said motor and controlling said motor in response thereto.

5 19. The method of claim 12 further comprising the step of disengaging said motor from said one of said wheels and manually operating said scooter while said motor assembly is attached to said scooter.

10 20. The method of claim 12 further comprising the step of controlling operation of said motor from a control unit mounted on said handle bar.

21. A scooter assembly, comprising:

- 15 (a) a scooter comprising a running board supported by a front wheel and a rear wheel, said front wheel being connected to a handle bar by means of a steering shaft;
- 20 (b) a case mounted to said scooter and a motor, said case housing a battery and said motor being electrically connected to said battery and said motor having a shaft for engagement with said front wheel;
- 25 (c) said motor being mounted to at least one of said steering shaft and an axle of said front wheel of said scooter to engage said front wheel;
- 30 (d) a biasing mechanism operably associated with said motor and at least one of said scooter and said case to urge said motor shaft into engagement with said front wheel, and said motor being selectively engageable with said front wheel.

35 22. The scooter assembly of claim 21 wherein said biasing mechanism is an elastic band.

23. The scooter assembly of claim 21 wherein said biasing mechanism is a spring.

24. The scooter assembly of claim 21 wherein
5 said case is detachably mounted to said steering shaft.

25. The scooter assembly of claim 21 wherein
10 said case and said motor form a motor assembly that is detachably mounted to said steering shaft.

26. The scooter assembly of claim 21 wherein
15 said scooter further comprises a pin and said case has a bearing portion for receiving said pin, so that said case is capable of pivoting with respect to said scooter.

27. The scooter assembly of claim 21 further
20 comprising a clamp for attaching said case to said steering shaft.

28. The scooter assembly of claim 21 wherein
25 said case is vertically adjustable with respect to said front wheel.

29. The scooter assembly of claim 21 further
30 comprising a control mechanism attached to said handle bar to control operation of said scooter.

30. The scooter assembly of claim 21 further
35 comprising a control circuit and a wheel sensor, said control circuit controlling operation of said motor in response to a signal received from said wheel sensor.

31. The scooter assembly of claim 21 further
comprising a control circuit and a current sensor capable
of monitoring current flow to said motor, said control
circuit controlling operation of said motor in response
to a signal received from said current sensor.